IN THE SPECIFICATION:

Please amend the specification as follows:

Pursuant to 37 CFR § 1.121(b)(1)(iii), a marked up copy of each paragraph amended below appears on the page immediately following each amendment.

Please delete page 1, line 5 to page 1, line 9, and insert the following therefor:

-- BACKGROUND

This patent application relates to calculating and reducing electromagnetic radiation at varying distances from computer and data processing systems. --

Please delete page 2, line 10 to page 3, line 6, and insert the following therefor:

-- Accordingly, efforts are made within the industry to limit the EMI generated by a system. But limiting generated EMI requires an estimate of the radiation for a specific system configuration. After the radiation level is known, reconfiguring the system may reduce the amount of EMI. A method is needed to predict radiation generated by a particular system at a fixed distance from the system. The present disclosure addresses this need.

SUMMARY

The disclosure relates to a method for calculating radiation ("noise") emitted by a computer system. The disclosure relates to a method for calculating electromagnetic radiation. The method models the characteristic radiation from a central processing unit as a modulated Gaussian pulse. The method solves Maxwell's equation using finite differences in the time domain. After solving Maxwell's equation the method determines if the radiation emitted by the heat sink is

capacitively coupled to the radiation emitted by the remaining components of the computer system. The method also determines whether radiation emitted by the heat sink is inductively coupled to the radiation emitted by the remaining components of the computer system. Finally, the method uses a fast Fourier transform to translate time domain data to the frequency domain. The method also teaches using a computer system, with instructions coded on a computer readable medium to make the calculations described.

BRIEF DESCRIPTION OF THE DRAWINGS

The present disclosure may be better understood, and it's numerous objects, features, and advantages made apparent to those skilled in the art by referencing the accompanying drawings. --

Please delete page 3, line 14 to page 3, line 15, and insert the following therefor:

-- Fig. 4 is a line diagram of a typical computer system for which the electromagnetic radiation can be calculated by the present disclosure. --

Please delete page 3, line 18 to page 3, line 21, and insert the following therefor:

-- DETAILED DESCRIPTION

The following sets forth a detailed description of a mode for carrying out the disclosure. The description is intended to be illustrative of the disclosure and should not be taken to be limiting. --

Please delete page 9, line 5 to page 9, line 23, and insert the following therefor:

-- An embodiment of the disclosure omits steps 104, 106 and 109 from the process. Current EMI test methods specify EMI levels in the frequency domain only. As described above, the disclosure may be used to determine if capacitive and inductive coupling exists. After determining if capacitive and inductive coupling exists the present disclosure may be practiced but limited to the frequency domain. (Analysis in the time domain is omitted). As shown in Figure 1B, the process begins again with the same 2 sets of variables as shown previously in Figure 1A -1: cpu information, logical step 101 and heat sink fin geometry information, logical step 102.

As in Figure 1 before, the process continues to a fast Fourier transform (FFT) as represented by logical step 111. In this embodiment, fast Fourier transfers data only from the time domain to the frequency domain. In this embodiment, the time domain analysis is omitted. The analysis is completed in the frequency domain only. After solving the transforming data using the fast Fourier transform, logical step 111, the confirms that the electromagnetic interference is at an acceptable level, logical step 112. If the electromagnetic interference is at an acceptance level, the process stops, logical step 130. --

Please delete page 10, line 20 to page 10, line 29, and insert the following therefor:

-- The present disclosure may be used to calculate the electromagnetic interference generated by a computer system as shown in Figure 4. Computer system 430 includes central processing unit (CPU) 432 connected by host bus 434 to various components including main memory 436, storage device controller 438, network interface 440, audio and video controllers 442, and input/output devices 444 connected via input/output (I/O) controllers 446. Heat sink 464 is located adjacent to CPU 432 as shown. Those skilled in the art will appreciate that this system

encompasses all types of computer systems including, for example, mainframes, minicomputers, workstations, servers, personal computers, Internet terminals, network appliances, notebooks, palm tops, personal digital assistants, and embedded systems. --

Please delete page 11, line 16 to page 11, line 21, and insert the following therefor:

-- While particular embodiments of the present disclosure have been shown and described, it will be recognized to those skilled in the art that, based upon the teachings herein, further changes and modifications may be made without departing from this disclosure and its broader aspects, and thus, the appended claims are to encompass within their scope all such changes and modifications as are within the true spirit and scope of this disclosure. --

Please delete page 16, line 6 to page 16, line 16, and insert the following therefor:

-- The disclosure relates to a method for calculating electromagnetic radiation emitted by a computer system. The method models the characteristic radiation from a central processing unit as a modulated Gaussian pulse. The method solves Maxwell's equation using finite differences in the time domain. After solving Maxwell's equation the method determines if the radiation emitted by the heat sink is capacitively coupled to the radiation emitted by the remaining components of the computer system. The method also determines whether radiation emitted by the heat sink is inductively coupled to the radiation emitted by the remaining components of the computer system. Finally, the method uses a fast Fourier transform to translate time domain data to the frequency domain. The method also teaches using a computer system, with instructions coded on a computer readable medium to make the calculations described. --